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 **PRESIDENCY UNIVERSITY**

  **Bengaluru**

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| **End - Term Examinations – JANUARY 2025** |
| **Date:** 13 – 01- 2025 **Time:** 09:30 am – 12:30 pm |

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| **School:** SOCSE | **Program:** B. Tech IST/ISD |
| **Course Code :** CSE2053 | **Course Name :** Enterprise Network Design |
| **Semester**: V | **Max Marks**: 100 | **Weightage**: 50% |

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| **CO - Levels** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** |
| **Marks** | **24** | **24** | **26** | **26** | **-** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write anything on the question paper other than roll number.*

**Part A**

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| **Answer ALL the Questions. Each question carries 2marks. 10Q x 2M=20M** |
| **1** | What is meant by Intelligence In Network(IIN). | **2 Marks** | **L1** | **CO1** |
| **2** | Recall any two advantages of Design Methodology. | **2 Marks** | **L1** | **CO1** |
| **3** | Identify any one role of core switch. | **2 Marks** | **L1** | **CO2** |
| **4** | State any one Infrastructure service capabilities while designing an enterprise campus network. | **2 Marks** | **L1** | **CO2** |
| **5** | List any two traditional WAN technologies. | **2 Marks** | **L1** | **CO3** |
| **6** | State any recurring cost for WAN. | **2 Marks** | **L1** | **CO3** |
| **7** | Define Route Summarization. | **2 Marks** | **L1** | **CO3** |
| **8** | Define a flow. | **2 Marks** | **L1** | **CO4** |
| **9** | What is a forwarding plane in SDN. | **2 Marks** | **L1** | **CO4** |
| **10** | Outline NOX SDN controller.  | **2 Marks** | **L1** | **CO4** |

**Part B**

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| **Answer the Questions Total 80 Marks.** |
| **11.** | **a.****b.** | Explain Organizational GoalsExplain in detail Design Implementation Process. | **8+12=20 Marks** | **L2** | **CO1** |
| **Or** |
| **12.** | **a.** | Summarize the benefits of Life Cycle approach.Explain in detail the PPDIOO network life cycle. | **20 Marks** | **L2** | **CO1** |
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| **13.** | **a.** | How is topology information collected.Consider the office of company which consists of two buildings. Building 1 consists of 3 departments. Building 2 hosts the Internet Router, the server farm(10 nodes) and 2 departments. Assume that each department has 20 employees using desktop machines. Illustrate a network topology diagram for this company. | **20 Marks** | **L3** | **CO2** |
| **Or** |
| **14.** | **a.** | Explain hierarchical network model in detail.Consider a residence which contains 3 rooms. Each room contains 10 computers. Determine whether there is a need for separate core/distribution switch for this network. Calculate how many switches are required for this network. | **20 Marks** | **L3** | **CO2** |

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| **15.** | **a.** | Consider the office of company which consists of two buildings. Building 1 consists of 3 departments. Building 2 hosts the Internet Router, the server farm(10 nodes) and 2 departments. Assume that each department has 20 employees using desktop machines. Describe how network IP addresses are assigned for this network. | **20 Marks** | **L2** | **CO3** |
| **Or** |
| **16.** | **a.** | Explain the WAN technologies in detail.Summarize how VPN is used as WAN backup. | **12+8 =20 Marks** | **L2** | **CO3** |

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| **17.** | **a.****b.** | Distinguish NOX and POX. Explain the NOX architecture.Consider the following network topology.eth2eth3eth2eth0eth0eth010.0.0.210.0.0.310.0.0.10s1h1h2h3s2eth1eth1Illustrate the OpenFlow statements to * + 1. Add flow entries forward all packets from hosts h1 to host h3 with IP address 10.0.0.10 [Hint: flow entries must be added in both switches s1 and s2].
 | **10+10=20 Marks** | **L3** | **CO4** |
| **Or** |
| **18.** | **a.****b.** | Explain in detail SDN controllers.Consider the following network topology.eth2eth3eth2eth0eth0eth010.0.0.210.0.0.310.0.0.10s1h1h2h3s2eth1eth1Illustrate the OpenFlow statements to * + 1. Add flow entries in switch s1 for forwarding all packets with destination TCP port 80 to host h1.
		2. Show the flow entries in the two switches.
 | **10+10=20 Marks** | **L3** | **CO4** |

**\*\*\*\*\* BEST WISHES \*\*\*\*\***